



PLAN, PRESERVE, PLAY

Lower Platte River Context Assessment

August 23, 2021



WELCOME

- Safety moment: emergency exits, 911, CPR
- Restrooms
- Refreshments
- Social distancing and available PPE

MEET THE HDR TEAM

- **John Engel, P.E.**, Water Resources Engineer
- **Doug Bisson**, Urban Design, Planning, and Landscape Architect
Principal
- **Ann Williams**, Nebraska/Iowa Water Business Group Manager
- **Matt Pillard**, Senior Environmental Planner, AICP
- **Andy Gorham**, Landscape Architect
- **Alex Robinson**, Landscape Designer
- **Stephanie Rittershaus**, Public Involvement Lead
- **Amanda Brandt**, Public Involvement Coordinator

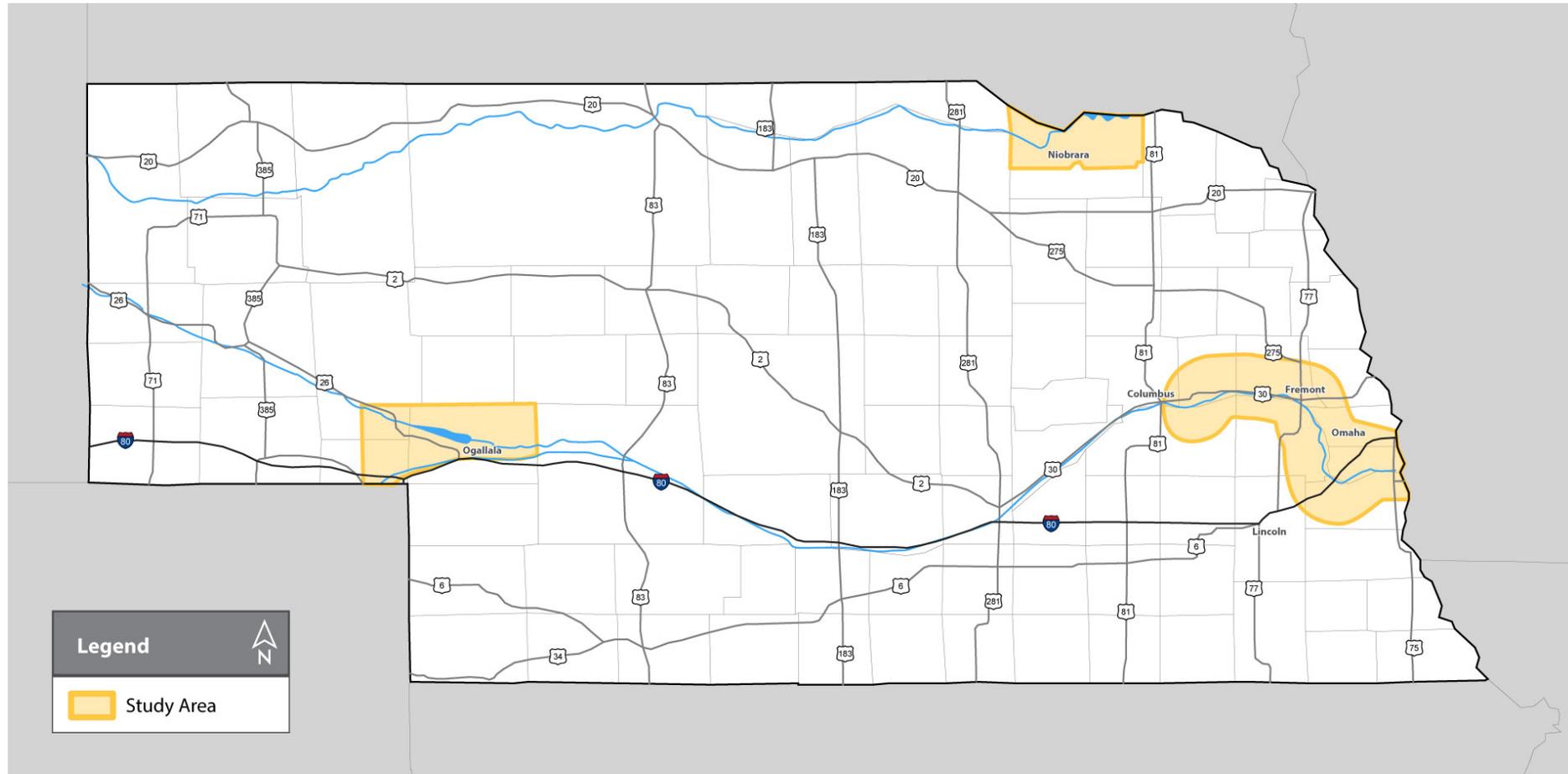
SELF INTRODUCTIONS

- Name
- Representative Organization

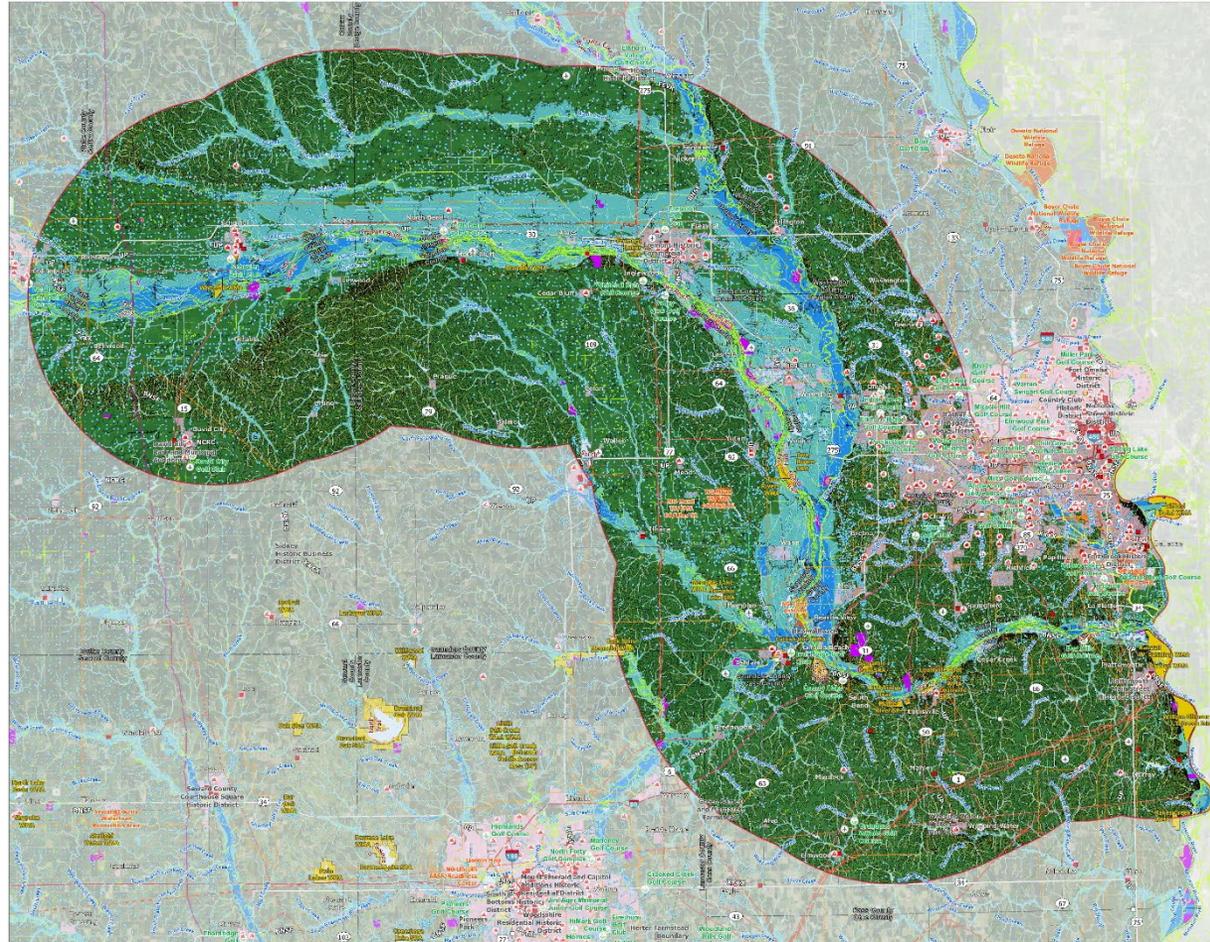
FROM EXECUTIVE BOARD REQUEST FOR PROPOSALS:

Legislative Bill 406 calls for The Statewide Tourism and Recreational Water Access and Resource Sustainability (STAR WARS) Special Committee of the Legislature to conduct a comprehensive study of certain identified geographic areas around the state of Nebraska to identify potential projects and opportunities to enhance the value of those areas to the citizens of Nebraska including, but not limited to, opportunities for economic development, tourism and recreation, flood control, and water sustainability.

PROJECT OVERVIEW



LOWER PLATTE RIVER



FROM LB406:

- Section 2.3 (a): *“Studies shall be conducted on...(i) The need to protect public and private property, including use of levee systems, enhance economic development, and promote private investment and the creation of jobs along the Platte River and its tributaries from Columbus, Nebraska, to Plattsmouth, Nebraska;*
- Section 2.3 (b): *“The study of the Lower Platte River pursuant to subdivision (3)(a)(i) of this section shall not include a study of any dam on a Platte River channel, but may include infrastructure options that maintain the integrity of the main channel of the Platte River. The committee may study dams relating to tributaries of the Platte River and levees in such area.”*

TODAY'S AGENDA

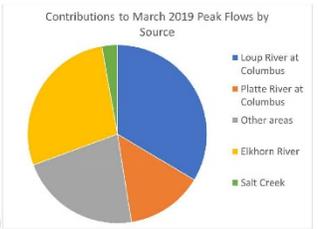
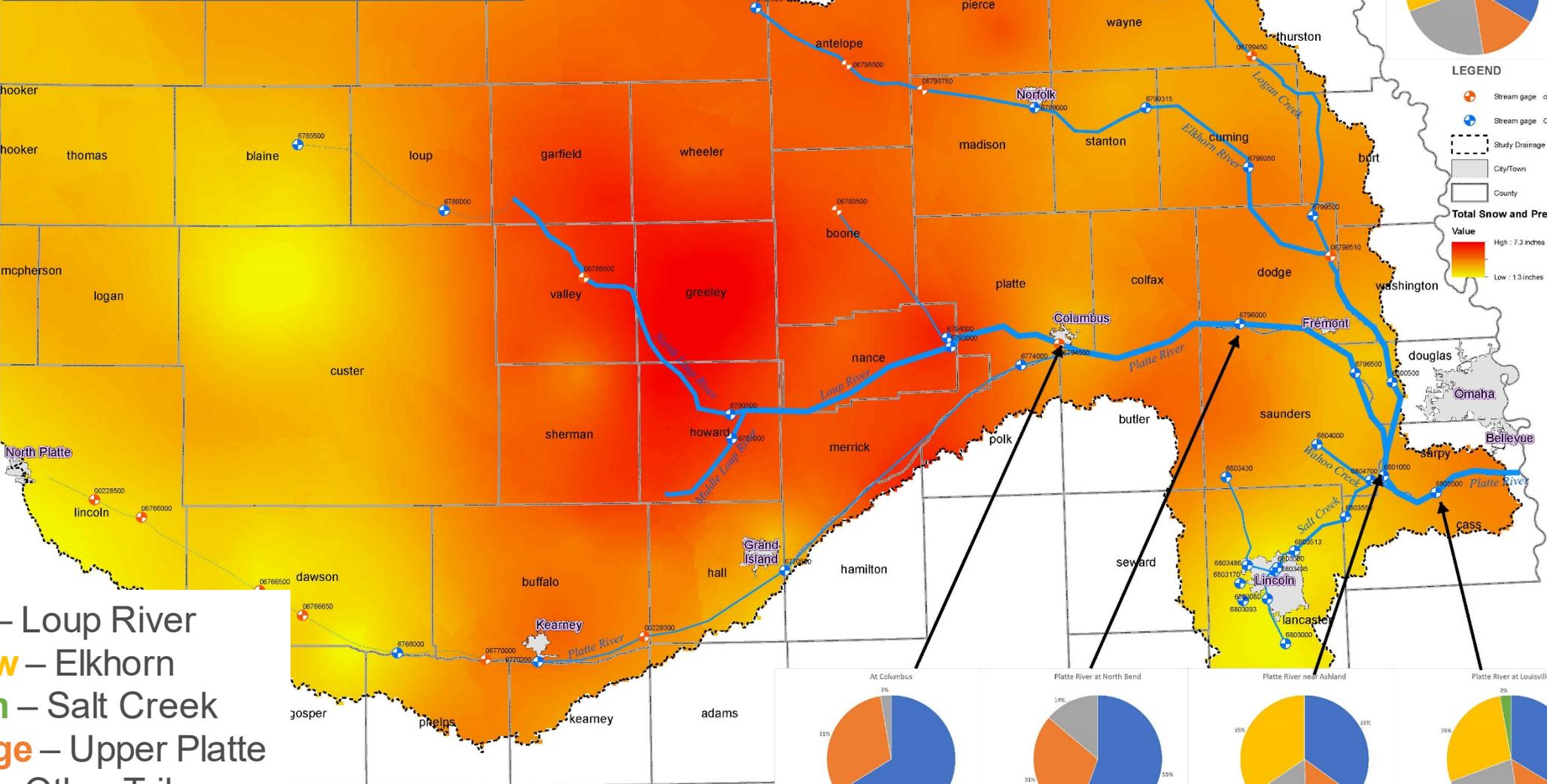
- Flooding and Flood Mitigation
- Break
- Economic Development/Recreation Opportunities



HYDROLOGY



This Figure shows the relative contribution to Lower Platte River March 2019 peak flows from various sources. The thickness of the blue line shows the relative contributions to the river peak throughout the watershed. The pie charts show the peak flow contributions from specific rivers.

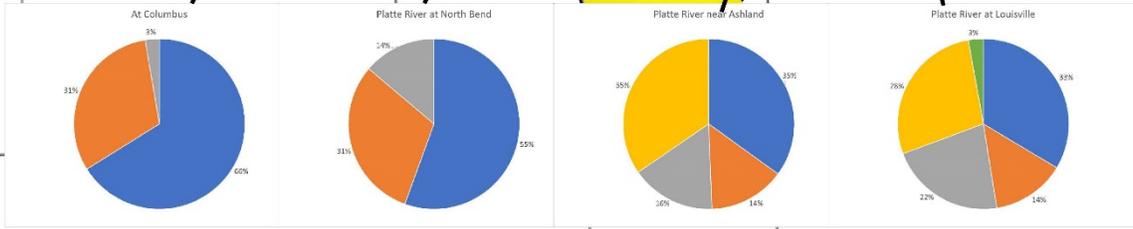


LEGEND

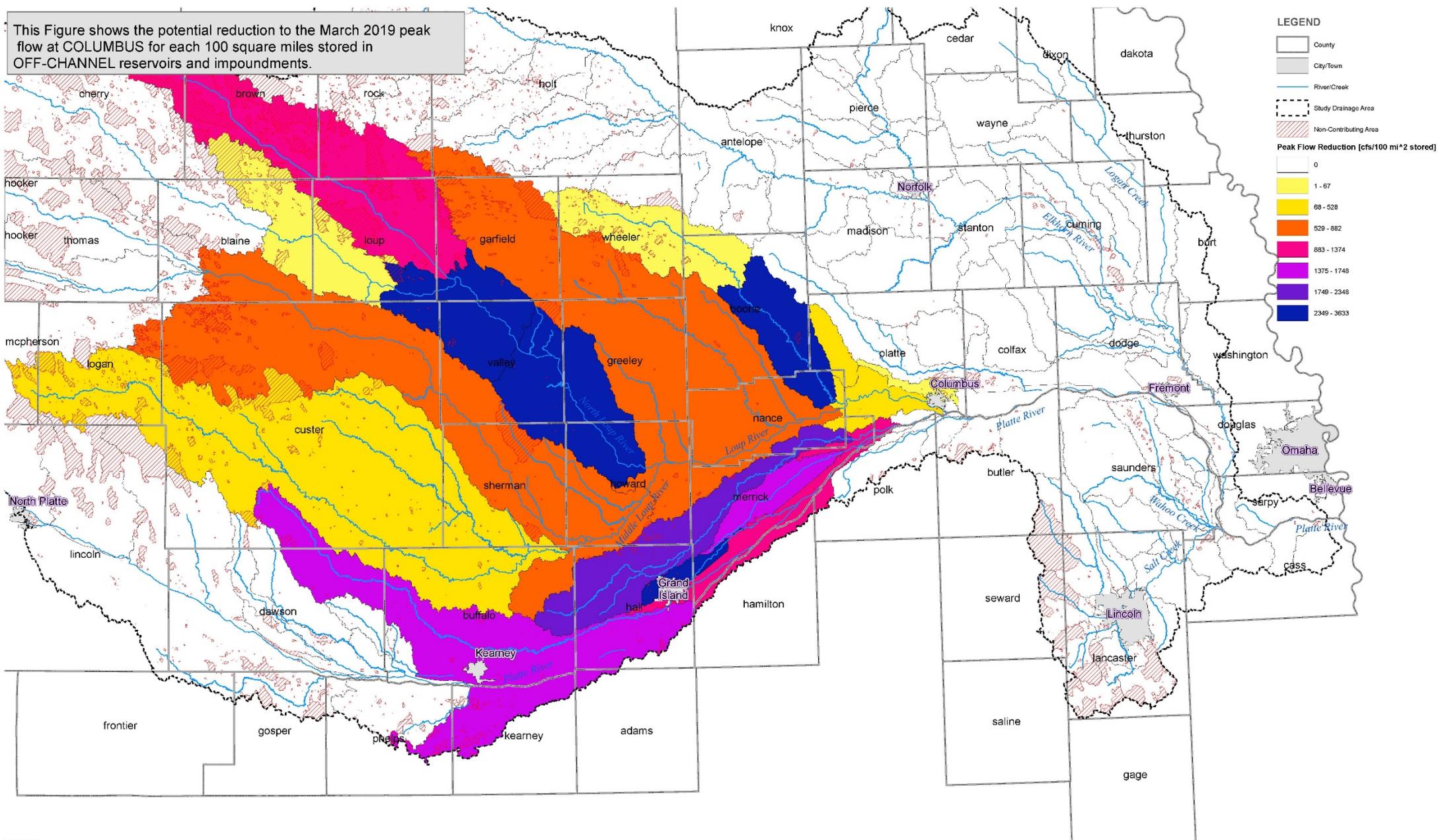
- Stream gauge operated by NE DNR (Red circle with cross)
- Stream gauge Operated by the USGS (Blue circle with cross)
- Study Drainage Area (Dashed line)
- City/Town (Gray square)
- County (White square)

Total Snow and Precipitation Value

Blue – Loup River
Yellow – Elkhorn
Green – Salt Creek
Orange – Upper Platte
Gray – Other Tribs



This Figure shows the potential reduction to the March 2019 peak flow at COLUMBUS for each 100 square miles stored in OFF-CHANNEL reservoirs and impoundments.



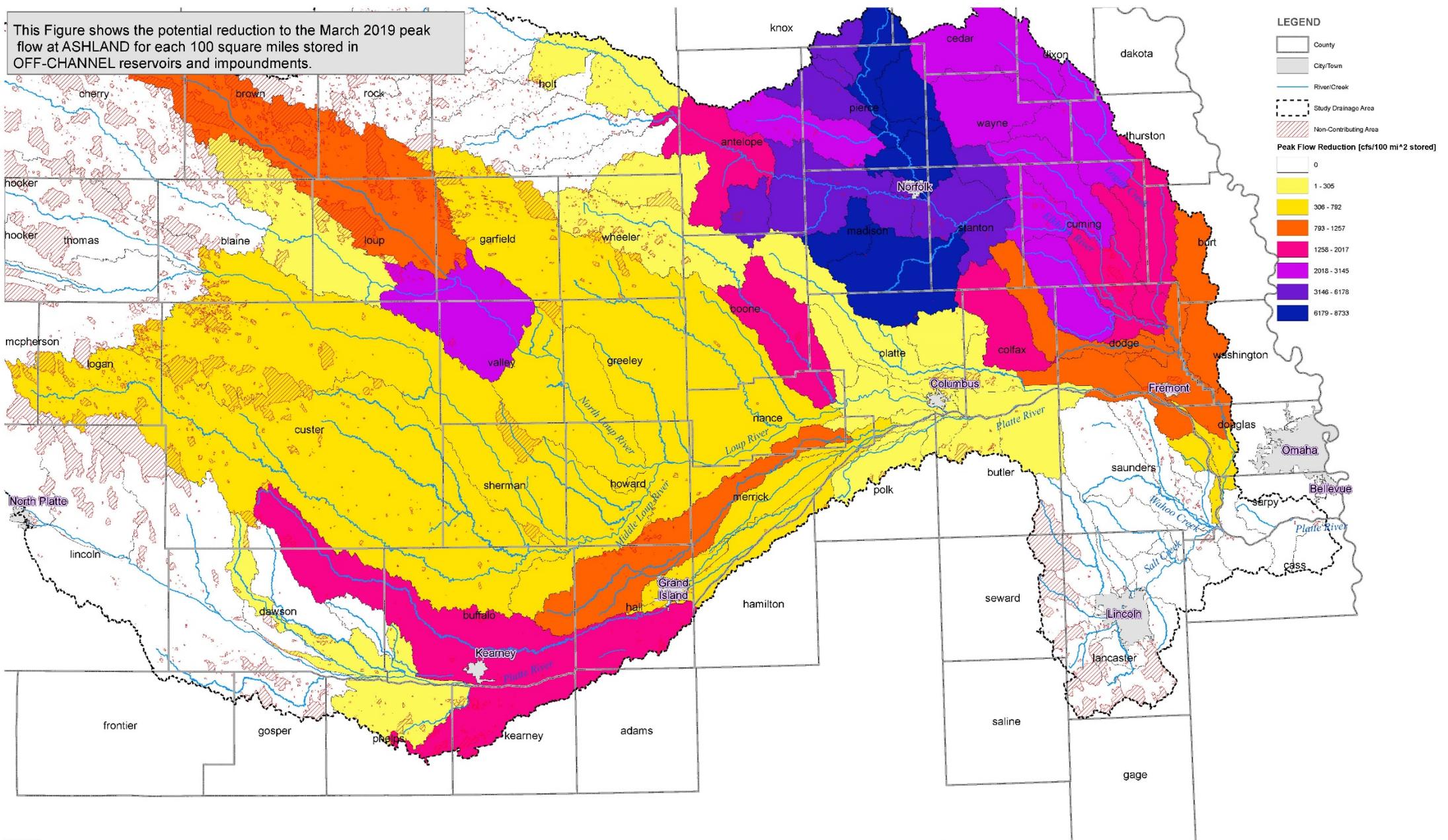
LEGEND

- County
- City/Town
- River/Creek
- Study Drainage Area
- Non-Contributing Area

Peak Flow Reduction (cfs/100 mi² stored)

- 0
- 1 - 67
- 68 - 528
- 529 - 882
- 883 - 1374
- 1375 - 1748
- 1749 - 2348
- 2349 - 3633

This Figure shows the potential reduction to the March 2019 peak flow at ASHLAND for each 100 square miles stored in OFF-CHANNEL reservoirs and impoundments.

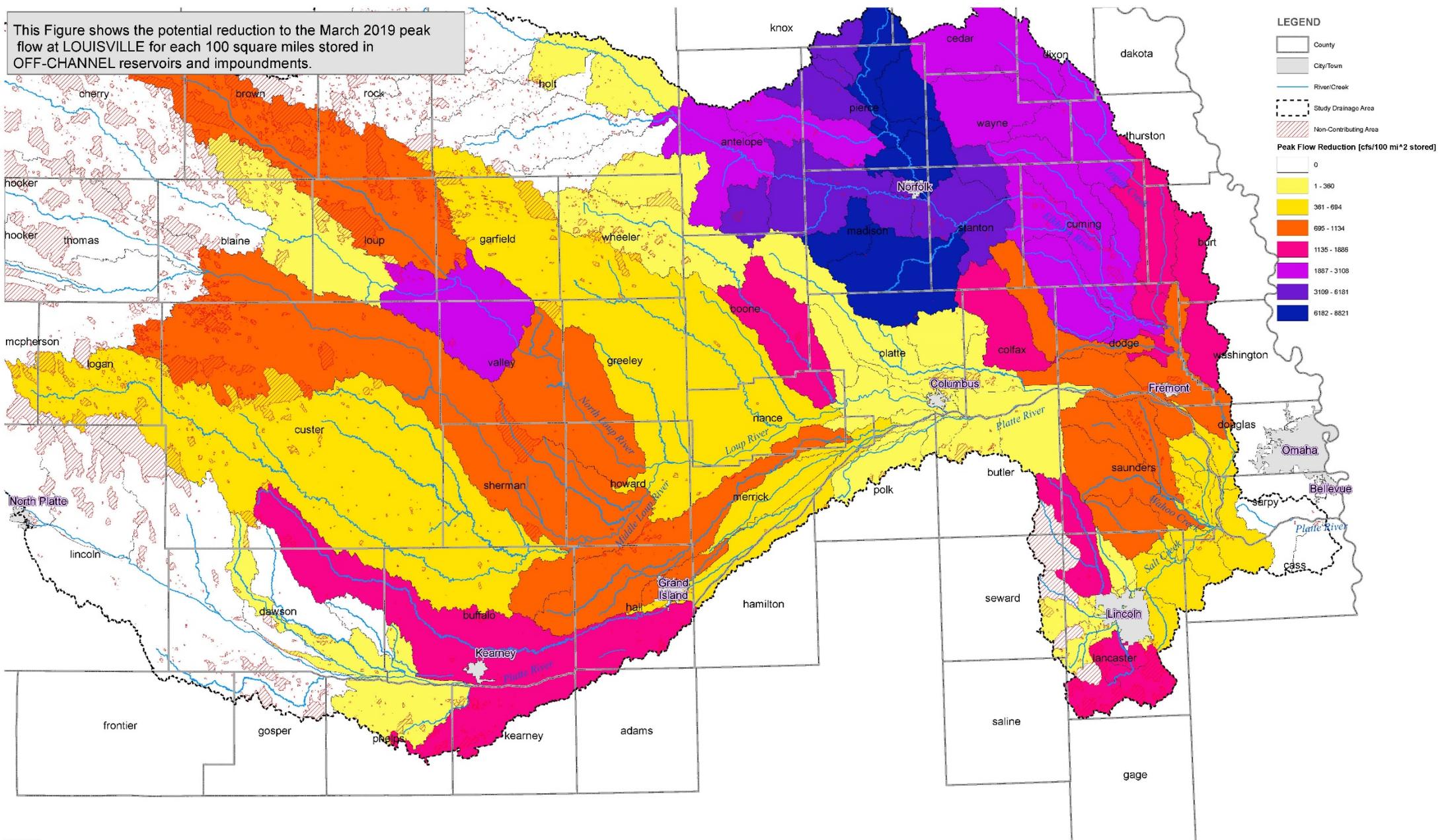


POTENTIAL REDUCTION TO ASHLAND MARCH 2019 PEAK FLOWS WITH OFF-CHANNEL IMPOUNDMENTS

AUGUST 10, 2021

FIGURE C1

This Figure shows the potential reduction to the March 2019 peak flow at LOUISVILLE for each 100 square miles stored in OFF-CHANNEL reservoirs and impoundments.



POTENTIAL REDUCTION TO LOUISVILLE MARCH 2019 PEAK FLOWS WITH OFF-CHANNEL IMPOUNDMENTS

AUGUST 10, 2021

FIGURE C1



ESTIMATED PEAKS COMPARISON (CFS)

SOURCE	DUNCAN	NORTH BEND	ASHLAND	LOUISVILLE
2020 Lower Platte River Flood Frequency	33,200	136,000	199,200	228,300
Estimated March 2019	20,000	165,000	215,000	250,000
FEMA Effective Flood Insurance Study*		132,000	187,000	

**Discharges at Duncan and Louisville are not included in the FIS*



HYDRAULICS



INUNDATION MAPPING COMMENTS

- The 2019 flood extent coverage was derived using a machine learning algorithm to convert inundation observed from satellite imagery. The satellite imagery was obtained on March 16 (at approximately 12 p.m.).
- Platte at Duncan peak flow (gage) is about 1 day after the imagery was captured.
- Loup at Columbus peak flow (gage) is about 1 day before the imagery was captured.
- Platte at North Bend peak flow (gage) is about 16 hours before imagery was captured
- Platte at Ashland peak flow (gage) is within about 8 hours of when the imagery was captured.

FLOOD MITIGATION QUESTIONS

1. Are there any flood mitigation efforts that your community/entity is working on that should be considered in our efforts?

FLOOD MITIGATION QUESTIONS

2. What communities/infrastructure/emergency routes/utility and other considerations should we be aware of in our efforts?

FLOOD MITIGATION QUESTIONS

3. Do you have ideas or concepts for flood mitigation in the Lower Platte River?



BREAK



CONTEXT ASSESSMENT

- Meeting purpose
- Format

OPPORTUNITIES TO ADVANCE

- Initiatives
- Projects
- Activities
- Events
- Synergies

CHALLENGES

- Issues or items that must be addressed in order to help achieve success

PLANNED DEVELOPMENT AND UTILITY, INFRASTRUCTURE AND COMMUNITY FACILITY NEEDS

- What is happening in terms of new or recent development projects that we need to be aware of?
- Are these things that we can/should build upon?
- What needs are present within the region that, if fulfilled, would assist with this effort?
 - Roads
 - Utilities
 - Infrastructure
 - Community facilities

LOCAL, REGIONAL AND NATIONAL PRECEDENTS AND BEST PRACTICES

- Are there any unique or applicable special projects or best practices that you have come across and feel would be useful as a precedent for this effort?

NEXT STEPS

- Study Process + Schedule
- Future meetings and opportunities for stakeholder and public involvement
 - September 14, Public Hearing

Amanda Brandt

Strategic Communications Coordinator

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THANK YOU FOR ATTENDING

